



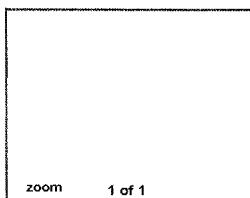
Exhibit 3

Register for additional site benefits | Login | Your Profile | Order Center | Search | Oligos & Peptides | Support | Help

Product Name or No.

63660 (-)-Menthol

Fluka puriss. p.a., terpene standard for GC, ≥99.0% (sum of enantiomers, GC)



zoom 1 of 1

Synonym (1R,2S,5R)-2-Isopropyl-5-methylcyclohexanol
Molecular Formula C₁₀H₂₀O
Molecular Weight 156.27
CAS Number 2216-51-5
Beilstein Registry Number 1902293
MDL number MFCD00062979
PubChem Substance ID 24882791
EG/EC Number 218-690-9

Expand/Collapse All

Price and Availability

[Click For Pricing and Availability](#)

Related Information

FT-IR Condensed Phase

FT-IR Raman

FT-NMR

MSDS

Certificate of Analysis

Enter Lot No.

[More Information](#)

Links

[Similar Products](#)

[Related Categories](#)

Page Options

[Print Preview](#)

[Bulk Quote](#)

[Ask A Scientist](#)

[Email Page](#)

Last 5 Products Viewed

63660 (Fluka)

Descriptions

Other Notes Important resolving agent for acids, recent applications include¹; Crystallization-induced asymmetric transformation of malonates², Chiral auxiliary^{3,4}

Properties

grade terpene standard for GC
 puriss. p.a.
assay ≥99.0% (sum of enantiomers, GC)
optical activity [α]D₂₀ = -50±1°, c = 10% in ethanol
optical purity enantiomeric ratio: ≥99:1 (GC)
shelf life (limited shelf life, expiry date on the label)
mp ~43 °C

References

Cited Reference 1. J.-M. Brunel, G. Buono *J. Org. Chem.* **58**, 7313, (1993)
 2. M. Ihara et al. *J. Chem. Soc. Chem. Commun.*, 9, (1998)
 3. G. Solladié et al. *Synthesis*, 173, (1987)
 4. N. Katagiri et al. *J. Org. Chem.* **53**, 227, (1988)

Beilstein *Beil.* **6**,IV,150

Safety

Hazard Codes XI
Risk Statements 37/38-41
Safety Statements 26-39
WGK Germany 2
RTECS OT0700000

Related Categories

... Alcohols > Aliphatic
 ... Biochemicals Found in Plants > Isoprenoid/terpenoid
 ... M > MEA - MES
 ... Life Sciences Standards > Natural Compounds
 ... Natural Compounds > Natural Terpene Standards

Use of this web site constitutes your acceptance of the Site Use Terms

[Privacy](#) | [Terms and Conditions of Sale](#) | [Business Development](#)

© 2007 Sigma-Aldrich Co. Reproduction forbidden without permission.
 Sigma-Aldrich brand products are sold exclusively through Sigma-Aldrich, Inc. Best viewed in IE6 or higher